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| 10/004,786 | 12/07/2001 | Jan Lindskog | 000500-277 | 7881 |

27045 7590 07/27/2005

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| EXAMINER |
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SAMS, MATTHEW C

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| ART UNIT | PAPER NUMBER |
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2643

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/004,786

Applicant(s)

LINDSKOG ET AL.

Examiner

Matthew C. Sams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 6 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 7, 8 and 10-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 5/18/2005. Claims 2, 4, 6 and 9 have been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7, 11, and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beach (US-6,067,297) in view of Larsson et al. (US-6,463,307 hereafter, Larsson).

Regarding claim 1, Beach teaches a method for power saving in a mobile terminal used in a wireless local area network (WLAN) that comprises a wireless network interface card compatible with IEEE 802.11 power save procedures, an access point, and an operating system compatible with the power states. (Col. 1 lines 32-41, line 65 through Col. 2 line 16, Col. 2 lines 35-37 and Col. 6 lines 54-59) Beach differs from the claimed invention by not showing a mobile terminal that requests for a transition from an active state to a less active state, upon which the NIC requests the access point to be entered into a WLAN sleep state and then enters the sleep state

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after acknowledgement from the access point. However, Larsson teaches a method and apparatus for power saving in a mobile terminal where the mobile terminal can request to enter or exit the power saving mode and then informs the access point. (Col. 3 lines 20-60) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the ability of a mobile terminal to enter and exit a power saving mode of Larsson with the method of power saving in a mobile terminal of Beach. One of ordinary skill in the art would have been motivated to do this since allowing the mobile terminal to request to enter or exit a power saving mode conserves battery power for when the user needs the mobile terminal and lets the access point know to queue messages for the mobile terminal. (Col. 2 lines 33-64)

Regarding claim 7, Beach teaches an access point that disassociates mobile terminals without using a disassociation signal. (Col. 3 lines 22-28)

Regarding claim 11, Larsson teaches a mobile terminal that associates with the access point on transition from a power saving state to an active state. (Col. 5 line 52 through Col. 6 line 9)

Regarding claim 13, Beach teaches a method for power control in a mobile terminal used in a wireless local area network (WLAN) that comprises a wireless network interface card compatible with IEEE 802.11 power save procedures, an access point, and an operating system compatible with the power states. (Col. 1 lines 32-41, line 65 through Col. 2 line 16, Col. 2 lines 35-37 and Col. 6 lines 54-59) Beach differs from the claimed invention by not showing a mobile terminal that initializes at a point of time later than a time-out interval due to inactivity in order to lower the system state.

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However, Larsson teaches a mobile terminal that initializes at a point in time later than a time-out interval due to inactivity in order to conserve power. (Col. 1 line 66 through Col. 2 line 5 and Col. 2 lines 10-23) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the ability of a mobile terminal to initialize at a point in time later than a time-out interval of Larsson with a method of power control for a mobile terminal of Beach. One of ordinary skill in the art would have been motivated to do this since an inactive mobile terminal conserves more battery power when in a power saving mode for a longer period of time. (Col. 2 lines 33-59)

Regarding claim 14, Beach teaches a method for power saving in which the mobile terminal goes from a power saving mode to an active mode when data is pending for transmission. (Col. 10 lines 28-35 and Col. 11 line 33 through Col. 12 line 7)

Regarding claim 15, Larsson teaches a timer in the mobile terminal used to initiate the mobile terminal to enter a power saving state. (Fig. 4 [406])

Regarding claim 16, Beach teaches a NIC that enters its lowest power consumption mode. (Col. 8 lines 35-42)

Regarding claim 17, Beach teaches a method for power saving in a mobile terminal used in a wireless local area network (WLAN) that comprises a wireless network interface card compatible with IEEE 802.11 power save procedures, an access point, and an operating system compatible with the power states. (Col. 1 lines 32-41, line 65 through Col. 2 line 16, Col. 2 lines 35-37 and Col. 6 lines 54-59) Beach differs

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from the claimed invention by not showing a mobile terminal that is operating in a low power mode and sends a request to the base station to be switched to a higher power mode. However, Larsson teaches a method and apparatus for power saving in a mobile terminal where the mobile terminal can request to enter or exit the power saving mode and then informs the access point. (Col. 3 lines 48-60) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the ability of a mobile terminal to request a transition from power saving mode to an active mode of Larsson with a method of power saving for a mobile terminal of Beach. One of ordinary skill in the art would have been motivated to do this since allowing the mobile terminal to request to enter or exit a power saving mode conserves battery power for when the user needs the mobile terminal, lets the access point know to queue messages for the mobile terminal and when to send the messages immediately. (Col. 2 lines 33-64)

4. Claims 3, 10, 12, 18, and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Beach (US-6,067,297) in view of van Bokhorst et al. (US-6,192,230 hereafter, van Bokhorst).

Regarding claim 3, Beach teaches a method for power saving in a mobile terminal used in a wireless local area network (WLAN) or ad hoc network that comprises a wireless network interface card compatible with IEEE 802.11 power save procedures, an access point, and an operating system compatible with the power states. (Col. 1 lines 32-41, line 65 through Col. 2 line 16, Col. 2 lines 35-37, Col. 6 lines 54-59 and Col. 7 lines 4-7) Beach differs from the claimed invention by not showing a

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mobile terminal that requests for a transition from an active state to a less active state, upon which the NIC requests the access point to be entered into a WLAN sleep state and then enters the sleep state after acknowledgement from the access point. However, van Bokhorst teaches a method and apparatus for power saving in a mobile terminal ad hoc network where the mobile terminal can request to enter or exit the power saving mode and then informs the access point. (Col. 7 lines 15-56) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the ability of a mobile terminal in an ad hoc network to request to enter or exit the power saving mode of van Bokhorst with the method of power saving for a mobile terminal in an ad hoc network of Beach. One of ordinary skill in the art would have been motivated to do this since allowing the mobile terminal to enter or exit the power saving mode conserves the battery power of the mobile device and enables efficient use of the wireless medium by limiting the amount of messages being sent between mobile devices. (Col. 1 lines 23-25 and Col. 2 lines 7-35)

Regarding claim 10, Beach teaches an access point that disassociates mobile terminals without using a disassociation signal. (Col. 3 lines 22-28)

Regarding claim 12, van Bokhorst teaches a mobile terminal in an ad hoc network that associates with network on the transition from a power saving state to an active state. (Col. 6 lines 43-48)

Regarding claim 18, Beach teaches a method for power saving in a mobile terminal used in a wireless local area network (WLAN) or ad hoc network that comprises a wireless network interface card compatible with IEEE 802.11 power save

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procedures, an access point, and an operating system compatible with the power states. (Col. 1 lines 32-41, line 65 through Col. 2 line 16, Col. 2 lines 35-37, Col. 6 lines 54-59 and Col. 7 lines 4-7) Beach differs from the claimed invention by not showing a mobile terminal that requests for a transition from a less active state to a more active state, upon which the NIC enters a more active state. However, van Bokhorst teaches a method and apparatus for power saving in a mobile terminal where the mobile terminal can request to enter or exit the power saving mode and then informs the access point. (Col. 7 lines 15-56 & Col. 8 line 46 through Col. 9 line 27) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the ability of a mobile terminal in an ad hoc network to request to enter or exit the power saving mode of van Bokhorst with the method of power saving for a mobile terminal in an ad hoc network of Beach. One of ordinary skill in the art would have been motivated to do this since allowing the mobile terminal to request to enter or exit a power saving mode conserves battery power for when the user needs the mobile terminal, lets the access point know to queue messages for the mobile terminal and when to send them immediately. (Col. 6 lines 43-51)

Regarding claim 23, Beach teaches a NIC that enters its lowest power consumption mode. (Col. 8 lines 35-42)

5. Claims 5, 8, 19-22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Beach in view of van Bokhorst, and further in view of Chen et al. (US-5,502,724 hereafter, Chen).

Regarding claim 5, the combination of Beach in view of van Bokhorst teach a method for power saving in a mobile terminal used in a wireless local area network (WLAN) or ad hoc network that comprises a wireless network interface card compatible with IEEE 802.11 power save procedures, an access point, an operating system compatible with the power states and where the mobile terminal can request to enter or exit the power saving mode. (Beach Col. 1 lines 32-41, line 65 through Col. 2 line 16; Col. 2 lines 35-37, Col. 6 lines 54-59, Col. 7 lines 4-7, and van Bokhorst Col. 7 lines 15-56) The combination of Beach in view of van Bokhorst differ from the claimed invention by not showing a mobile terminal that requests a disconnection from the ad hoc network. However, Chen teaches a method for disconnection in a mobile terminal where the mobile terminal can request to be disconnected from another mobile terminal in an ad hoc network. (Col. 2 line 60 through Col. 3 line 6) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the ability to request to be disconnected from the network of Chen with the method of power saving for a mobile terminal in an ad hoc network of Beach in view of van Bokhorst. One of ordinary skill in the art would have been motivated to do this since allowing the mobile terminal to enter or exit the power saving mode conserves battery power of the mobile device and it is quite possible that a mobile terminal would leave the effective connection range of the communication network. (Col. 2 lines 9-12)

Regarding claim 8, the combination of Beach in view of van Bokhorst teach a method for power saving in a mobile terminal used in a wireless local area network (WLAN) or ad hoc network that comprises a wireless network interface card compatible

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with IEEE 802.11 power save procedures, an access point, an operating system compatible with the power states and where the mobile terminal can request to enter or exit the power saving mode. (Beach Col. 1 lines 32-41, line 65 through Col. 2 line 16, Col. 2 lines 35-37, Col. 6 lines 54-59, Col. 7 lines 4-7, and van Bokhorst Col. 7 lines 15-56) The combination of Beach in view of van Bokhorst differ from the claimed invention by not showing a mobile terminal that requests a disconnection from the ad hoc network. However, Chen teaches a method for disconnection in a mobile terminal where the mobile terminal can request to be disconnected from another mobile terminal in an ad hoc network. (Col. 2 line 60 through Col. 3 line 6) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the ability to request to be disconnected from the network of Chen with the method of power saving for a mobile terminal in an ad hoc network of Beach in view of van Bokhorst. One of ordinary skill in the art would have been motivated to do this since allowing the mobile terminal to enter or exit the power saving mode conserves battery power of the mobile device and it is quite possible that a mobile terminal would leave the effective connection range of the communication network. (Col. 2 lines 9-12)

Regarding claim 19, Beach teaches a mobile terminal that is disassociated from the access point without using a disassociated signal. (Col. 3 lines 22-28)

Regarding claim 20, Beach teaches a mobile terminal that is disassociated from the access point without using a disassociating signal. (Col. 3 lines 22-28)

Regarding claim 21, Beach teaches a mobile terminal that associates with an access point on transition from a sleep mode to an awake mode. (Col. 10 lines 28-35)

Regarding claim 22, Beach teaches a mobile terminal that associates with an access point on transition from a sleep mode to an awake mode. (Col. 10 lines 28-35)

Regarding claim 24, Beach teaches a NIC that enters its lowest power consumption mode. (Col. 8 lines 35-42)

Regarding claim 25, Beach teaches a NIC that enters its lowest power consumption mode. (Col. 8 lines 35-42)

Response to Arguments

6. Applicant's arguments filed 5/11/2005 have been fully considered but they are not persuasive.

Pertaining the applicant's argument (Page 9 lines 2-4) regarding "both the mobile terminal and the NIC can enter power save states", Larsson teaches a base station that sends instructions to a mobile terminal regarding when the mobile terminal should listen for a paging message. (Larsson Col. 3 lines 20-35) Since the base station knows when the mobile terminal will be listening for a paging message, the base station has entered into a power saving mode by not trying to contact the mobile terminal until the specified time. Therefore, Larsson teaches a mobile terminal and a base station that enters power saving states.

7. In response to applicant's argument (Page 9 lines 25-31) that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge

which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

8. In response to applicant's argument (Page 8 line 26 through Page 9 line 2) that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., sending requests between the devices to find out the devices power states) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. In response to applicant's argument (Page 9 lines 24-25) that the prior art does not "deal with deciding if a change of power status is possible", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

Since no arguments were brought up about the dependent claims, the original rejection stands in view of the additional explanation.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

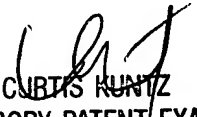
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS
7/13/2005


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